

What is claimed is:

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1. A method of packet routing, comprising:  
connecting a plurality of processors in a network;  
assigning a unique processor identifier (PEID) to each of the processors;  
routing a first packet to a first one of the processors across the network,  
wherein each such packet includes a PEID value corresponding to a PEID of one of  
the processors, and wherein the routing to the first processor is based on the PEID  
value in the first packet;
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- establishing a plurality of objects in the first processor;  
assigning a logical queue identifier (LQID) to a first one of the objects in the  
first processor, wherein each packet also includes an LQID value corresponding to  
an LQID of one of the objects; and
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- routing the first packet to the first object based on the LQID value in the first  
packet.
2. The method of claim 1, further comprising assigning a plurality of different  
LQIDs to the first object.
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3. The method of claim 2, further comprising routing a plurality of packets,  
each having a different LQID, to the first object based on the LQID value in each  
respective packet.
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4. The method of claim 1, wherein an object is associated with a virtual router  
(VR).
5. The method of claim 1, further comprising:  
establishing the first LQID with the first object to be used for point-to-point  
data traffic; and

establishing a second LQID with the first object to be used for shortcut data traffic.

6. The method of claim 1, wherein the network is configured in a ring topology.

7. A system for routing packets, comprising:

a plurality of processors coupled to one another using a network, wherein each of the processors a unique processor identifier (PEID), wherein a first packet is routed into a first one of the processors across the network, wherein each such packet includes a PEID value corresponding to a PEID of one of the processors, and wherein the routing to the first processor is based on the PEID value in the first packet;

a plurality of objects in the first processor, wherein each such object is assigned a logical queue identifier (LQID), wherein each packet also includes an LQID value corresponding to an LQID of one of the objects; and

means for routing the first packet to the first object based on the LQID value in the first packet.

8. The system of claim 6, wherein a plurality of different LQIDs are simultaneously assigned to the first object.

9. The system of claim 8, wherein the means for routing includes means for routing a plurality of packets, each having a different LQID, to the first object based on the LQID value in each respective packet.

10. The system of claim 6, wherein the first object is associated with a virtual router (VR).

11. The system of claim 6, wherein the first LQID is associated with the first object to be used for point-to-point data traffic, and a second LQID is associated with the first object to be used for shortcut data traffic.

5 12. The system of claim 6, wherein the network is configured in a ring topology.

13. A system for routing packets, comprising:

10 a plurality of processors coupled to one another using a network, wherein each of the processors a unique processor identifier (PEID), wherein a first packet is routed into a first one of the processors across the network, wherein each such packet includes a PEID value corresponding to a PEID of one of the processors, and wherein the routing to the first processor is based on the PEID value in the first packet;

15 a plurality of objects in the first processor, wherein each such object is assigned a logical queue identifier (LQID), wherein each packet also includes an LQID value corresponding to an LQID of one of the objects, wherein the first packet is routed to the first object based on the LQID value in the first packet.

20 14. The system of claim 13, wherein a plurality of different LQIDs are simultaneously assigned to the first object.

25 15. The system of claim 14, wherein the a plurality of packets, each having a different LQID, are routed to the first object based on the LQID value in each respective packet.

16. The system of claim 13, wherein the first object is associated with a virtual router (VR).

17. The system of claim 13, wherein the first LQID is associated with the first object to be used for point-to-point data traffic, and a second LQID is associated with the first object to be used for shortcut data traffic.

18. The system of claim 13, wherein the network is configured in a ring topology.

19. The system of claim 13, further comprising:  
a services management system that provides changeable provisioning of  
processor capacity among a plurality of customers.

20. The system of claim 13, further comprising:  
a services management system that provides firewall protection for each of a plurality of customers.

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